Secure NAS 2R5

Model: SN1035E1G

INTRODUCTION

The Secure NAS is a family of storage appliance from Addonics that combines the benefits of RAID storage, Network Attached Storage (NAS), Direct Attached Storage (DAS) and hardware AES 256-bit encryption all in box. It is an ideal solution for storing large volume of sensitive data, for securely transporting large volume of data between different locations or for any application that requires protection against data theft.

The Secure NAS can be directly attached to any system via high speed eSATA connection, this allows transferring large volume of data quickly. The same data in the Secure NAS can be shared over a 1 Gigabit network. The entire RAID volume, including the boot sector and partition table, is encrypted. Data written onto or retrieved from the RAID is encrypted and decrypted on the fly by a high performance FIPS certified AES 256-bit crypto engine.

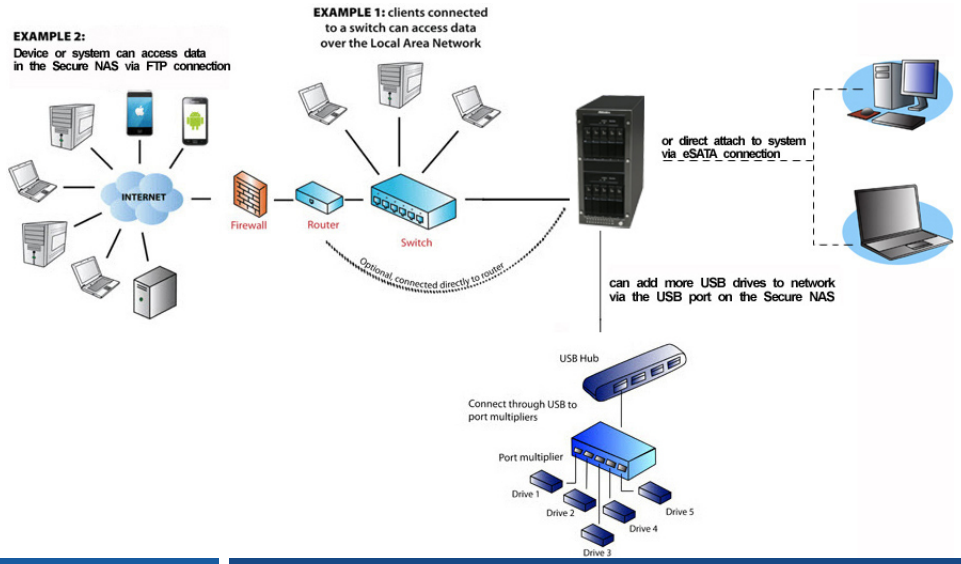
The encryption is simple to operate. There is no software to run or password to enter. Simply insert a correct cipher key into the unit during the system start up, just like starting a car. Once the unit is powered up, the Cipher key can be removed. If the Secure NAS storage unit is stolen, the RAID volume will not be visible on the network or to any system. If the drives are taken out from the Secure NAS storage and directly attached to any system, the drives will appear as blank. There will be no trace of any recoverable data even examined by recovery software or surface scanning of the drive platter.

About this model

The Secure NAS 2R5, model SN1035E1G, accommodates up to ten (10) 3.5" SATA hard drives. The ten drives are set up as two RAID volumes for high performance and reliability. By using RAID 5 configuration, each RAID volume up to 16 TB can be created by using five 4TB hard drives. The entire RAID volume, encrypted by a FIPS certified AES 256-bit crypto engine, can be directly attached to any system via eSATA or used as a Network Attached Storage appliance on any 10/100/1000 network.

Additional USB drives, up to maximum fifteen (15) drive volumes when combines with USB hubs, can be shared over the network by attaching to the USB port on the back of the unit.

Illustration of connecting the Secure NAS to LAN or system


EXAMPLE 2:
Device or system can access data in the Secure NAS via FTP connection
EXAMPLE 1: clients connected to a switch can access data over the Local Area Network
INTERNET
Firewall
Router
Switch
Optional, connected directly to router
or direct attach to system via eSATA connection
can add more USB drives to network via the USB port on the Secure NAS
USB Hub
Connect through USB to port multipliers
Port multiplier
Drive 1
Drive 2
Drive 3
Drive 4
Drive 5

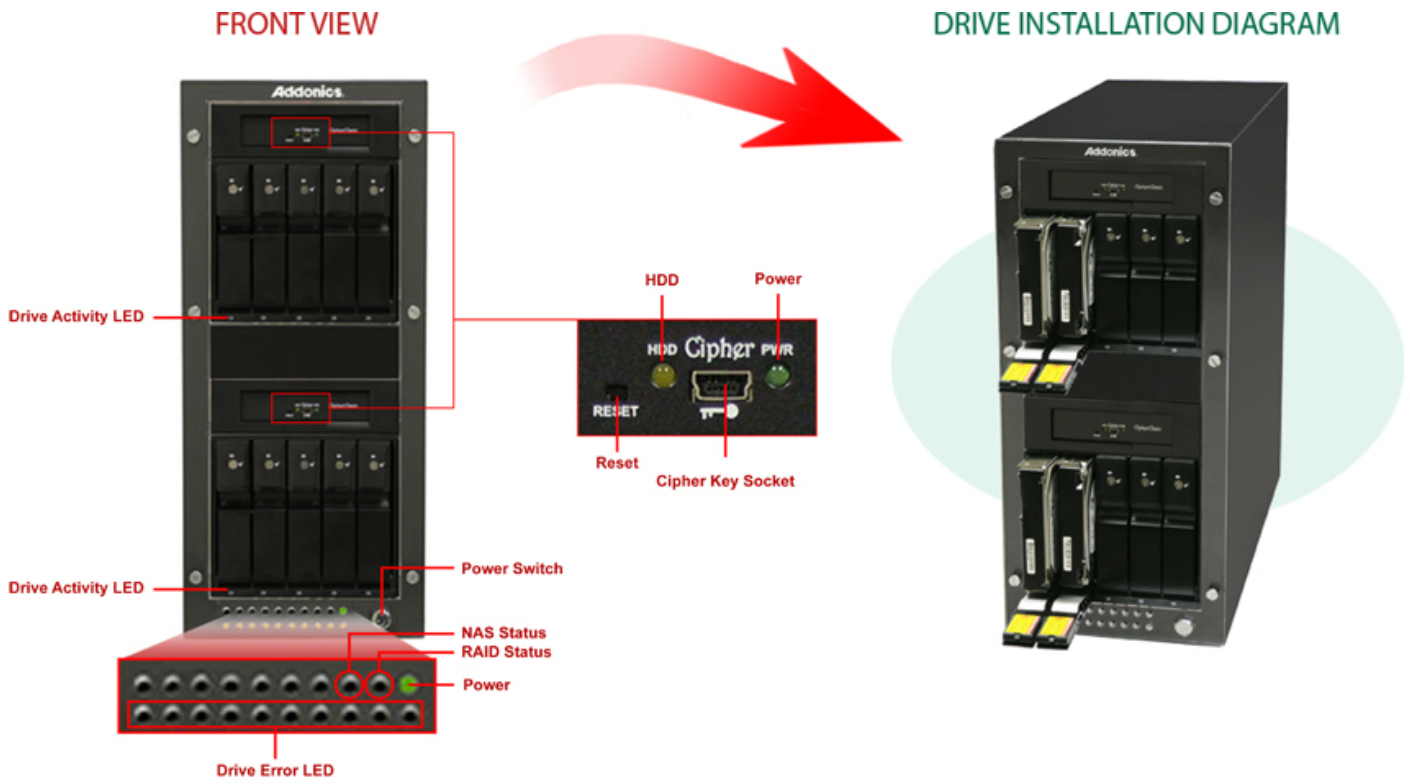
www.addonics.com

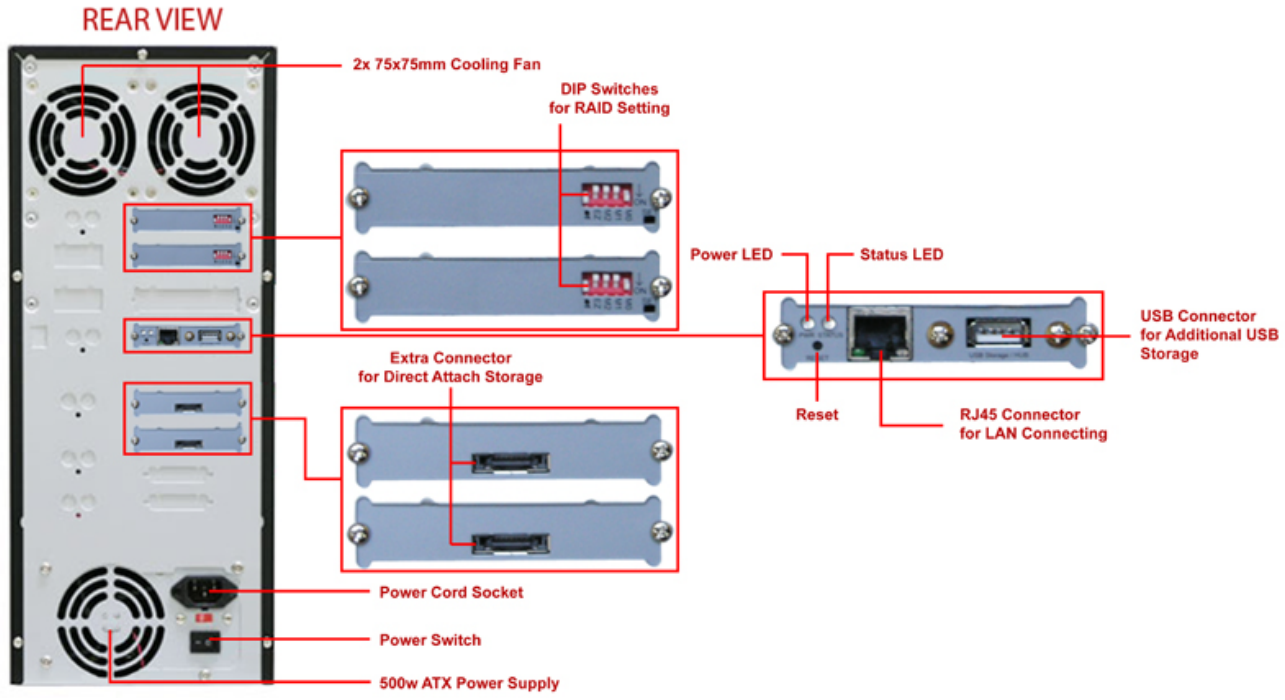
Addonics Technologies Inc.
1918 Junction Avenue, San Jose, CA 95131
Phone: 408.573.8580 | Fax: 408.573.8588

Secure NAS 2R5

Model: SN1035E1G

Secure NAS R5 detail front and back view





www.addonics.com

Addonics Technologies Inc.
1918 Junction Avenue, San Jose, CA 95131
Phone: 408.573.8580 | Fax: 408.573.8588

Secure NAS 2R5

Model: SN1035E1G

FEATURES

Summary

- Install up to ten (10) 3.5" SATA hard drives
- Drives are connected to two Port Multipliers to form two drive volumes
- Each drive volume can be configured as RAID0 (Striping), RAID 5 (Parity), RAID 5+S, Large Drive or Clone Mode (N-Way Mirror)
- The RAID volume can be attached to
    - Fast Ethernet 10/100/1000 Mbps network to use as a Network Attached Storage
    - Or any system via eSATA port to use as a Direct Attached Storage (can attach to USB 3.0 port using optional USB 3.0 - eSATA adapter)
- FIPS certified AES 256-bit hardware encryption for the entire RAID volume
- Drive can be added and removed like VHS cassette with no special tool
- USB port to support attaching additional USB drives to the network with maximum 15 drive volumes when combined with USB hub

Network Attached Storage

- Built-In SMB / Samba server for file sharing over LAN
- Built-in FTP server for file access over the internet
- Built-in file formatting utility for XFS and EXT3
- Support 10/100/1000 Mbps network
- Maximum data transfer over Gigabit LAN:

	RAID storage		USB storage	
	read	**write**	**read**	**write**
XFS	up to 85 MB/sec	up to 45 MB/sec	up to 30 MB/sec	up to 30 MB/sec
EXT3 or EXT4	up to 50 MB/sec	up to 35 MB/sec	up to 30 MB/sec	Up to 30 MB/sec
NTFS	up to 16 MB/sec	up to 5 MB/sec	up to 16 MB/sec	up to 5 MB/sec
FAT32	up to 18 MB/sec	up to 8 MB/sec	up to 18 MB/sec	up to 8 MB/sec

- Support XFS, EXT2, EXT3, EXT4, NTFS or FAT32 file system
- Maximum partition size or drive volume capacity:
    - XFS - 16 TB
    - EXT3 - 16 TB
    - EXT4 - 16 TB
    - NTFS - 9 TB
    - FAT32 - 2TB
- USB port to support adding USB drives to the network up to total 15 drive volumes when combined with USB hub
- Support Up to 15 partitions per RAID volume or drive - giving a maximum 240 drive volumes on the network
- Storage device with existing data can be attached via USB port (the folder name must be in large CAP to be sharable). See Q&A section on folder and file security setting
- Maximum user accounts:
    - Samba server - 64,0000*
- Maximum # of concurrent connections:
    - Samba and FTP server combined - 32,000*
- Built-in MLDonkey client for direct download to the attached storage device
- Web GUI administration
- User management to allow read only or read/write access to folders
- USB port can be used to power most 2.5" USB hard drives or any low power USB storage device

Addonics Technologies Inc.
1918 Junction Avenue, San Jose, CA 95131
Phone: 408.573.8580 | Fax: 408.573.8588

FEATURES (Cont.)

* These are the theoretical limits in the kernel. As # of concurrent connections increase, performance starts to decline depending on the drive access activity from the concurrent connections.

Encryption

- AES 256-bit encryption - the highest level of encryption standard
- FIPS 140-2 certified Crypto Module listed in NIST
- Full disk encryption. No traceable data when the encrypted drive is connected to any system
- No training required. Encryption/decryption is activated via a hardware key , just like using a regular key to open a door.
- High performance - up to 150 MB/sec
- OS independent - can be used on any system
- **Cipher key**

  There is no back door for the Secure NAS if the Cipher key is lost or stolen. To ensure there is a spare key, every Secure NAS comes with one pair of Cipher keys. One of these keys should be kept in a safe, secure location and, if needed, can be sent back to Addonics for duplicating additional keys. If one of the two keys is lost, be sure to make a back up of all the data stored inside the Secure NAS prior to sending your last Cipher key to Addonics. Addonics is not responsible for keys lost in the mail or the retrieval of the data inside the Secure NAS. Customers may also order additional Cipher keys with the same key code when ordering the Secure NAS.

  The AES 256-bit Cipher key used for the Secure NAS is the same Cipher key used in the Addonics Diamond Cipher drive kit, Ruby Cipher drive kit or theCipherChain. As a result, the same Cipher key can operate the storage device that has been encrypted by either the CipherChain, Diamond Cipher, or Ruby Cipher drive kit. The Cipher keys can also be reprogrammed with other codes by using the optional key management system or by sending the keys to Addonics for the reprogramming service (at no charge).

- Optional Cipher key management system - For organization with large deployment, you may consider managing your ow[illegible] by investing into a Addonics Cipher key duplicating system.

Direct Attached Storage

- Connect to system via eSATA port (connecting cable included)
- Optional Addonics USB 3.0 - eSATA adapter for connecting to USB 3.0 / 2.0 port
- Drives are connected to a Port Multiplier that can be configured as RAID0 (Striping), RAID1 (Mirroring), RAID 5 (Parity), RAID 5+S, Large Drive (Concatenation), Clone Mode (N-Way Mirror) or individual drive*
- RAID setting via dip switches on the back
- OS independent, can be used on any system
- RAID diagnostic via LED light

*Individual drive setting is supported when the secure NAS is directly attached to a system. When attached to the network, only the drive connecting to be port 0 on the Port Mutiplier is available to share over the LAN.

Major components that make up this model:
Storage Tower V (STV), 5-port HPM- XA enclosure version (AD5HPMSXA), 1 Snap-In Disk Array (AESN5DA35-A), One CipherChain kit for 3.5" bay with a pair of Cipher keys (CCM35K1), Internal GigaNAS adapter (NAS4RM), 3 feet eSATA cable (AAESATA100C), power cord, user guide
Optional USB 3.0 - eSATA adapter (ADU3ESA) for USB 3.0/2.0 connection

Addonics Technologies Inc.
1918 Junction Avenue, San Jose, CA 95131
Phone: 408.573.8580 | Fax: 408.573.8588

Secure NAS 2R5

Model: SN1035E1G

SPECIFICATIONS

- On the back of unit
  - One RJ45 connector for 10/100/1000Mbps Ethernet connection
  - Two eSATA ports
  - USB 2.0 / 1.1 type B female connector (can supply power up to 1.5A at 5V)
  - AC power socket
  - LED for LAN activity and status
  - RAID setting dip switches
- On the front of the unit
  - Ten (10) Snap-In drive bays
  - Two Cipher key sockets
  - LED for power, drive activity, drive error, host connection, RAID rebuilt, LAN activity, encryption activity, Cipher status
  - Power On/Off switch
- Two low noise, high CFM 80 x 80 cooling fan
- 110/240 AC 500 Watts power supply
- Dimensions (L x W x H): ~ 7.5 x 17.25 x 17.2 in. (190 x 438 x 437 mm.)
- Weight: ~17.05lb (7.73 kg)
- Operation Temperature: 0 °C ~ 60 °C
- Operation Humidity: 10 ~ 90 %RH
- Storage Temperature: -20 °C ~ 70 °C
- Storage Humidity: 5~ 95 %RH

Addonics Technologies Inc.
1918 Junction Avenue, San Jose, CA 95131
Phone: 408.573.8580 | Fax: 408.573.8588